

Patent claims

1. A ball screw with a spindle nut (2) arranged on a spindle (1), and also with balls (3), which are arranged in such a way that they can roll in a thread path (4), the thread path (4) being formed by a thread groove (5) formed on the spindle (1) and by a thread groove (5) formed on the spindle nut (2), and with at least one deflecting piece (8), which is arranged in a receptacle (7) of the spindle nut (2) and has a deflecting channel (9) for the return of the balls (3) respectively from a run-out end (10) to a run-in end (11) of at least one common turn (12) of the thread path (4), wherein the deflecting piece (8) is composed of two partial deflecting pieces (13, 14), a parting plane dividing the deflecting channel (9) longitudinally.

2. The ball screw as claimed in claim 1, in which the deflecting channel (9) is bounded by a base (21) and two side plates (22, 23) of the deflecting piece (8), the one side plate (22) being formed on the one partial deflecting piece (13) and the other side plate (23) being formed on the other partial deflecting piece (14).

3. The ball screw as claimed in claim 1, in which the two partial deflecting pieces (13, 14) are captively connected to one another, in particular by a film hinge.

4. The ball screw as claimed in claim 1, in which the two partial deflecting pieces (13, 14) are formed point-symmetrically in a sectional plane arranged transversely to the parting plane, with respect to a point of symmetry lying in the parting plane.

5. The ball screw as claimed in claim 1, in which both side plates (22, 23) are respectively provided at their free end, facing the thread groove (5) of the spindle, with a blade (24, 25) for engagement between the ball (3) and the thread groove (5) of the spindle (1).

6. The ball screw as claimed in claim 1, in which the clear distance between the two free ends of the side plates (22, 23) is less than the ball diameter.

7. The ball screw as claimed in claim 1, in which the deflecting piece (8) engages with ball guiding surfaces (26, 27) in the thread groove (5) of the spindle (1), in order to lift the balls (3) off from the thread groove (5) of the spindle (1).

8. The ball screw as claimed in claim 1, in which both partial deflecting pieces (13, 14) are respectively provided with a hook (17) and with a hook receptacle (18), a hook (17) and a hook receptacle (18) of each of the two partial deflecting pieces (13, 14) being able to hook in one another, gripping one another.

9. The ball screw as claimed in claims 4 and 8, in which the hook (17) is provided at the one circumferential end of each partial deflecting piece (13, 14) and the hook receptacle (18) is provided at the opposite, other circumferential end.

10. The ball screw as claimed in claim 1, in which the deflecting piece is produced in particular from thermoplastic material by the injection-molding process.